# **NM OIL CONSERVATION**

ARTESIA DISTRICT

APR 07 2015

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# REMEDIATION SUMMARY & SITE CLOSURE REQUEST

BOPCO, L.P.
POKER LAKE UNIT #186
(Spill dated 4/9/12)
API-30-015-31973
Eddy County, New Mexico
UL-K, Section 32, Twns. 23 South, Range 30 East
Latitude N 32.258800° Longitude W 103.90680°
NMOCD Spill reference #2RP-1101

Prepared By:

BOPCO, L.P. 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220

April 2015

Tony Savoie Waste Management & Remediation Specialist

# **Site History:**

On the 4/9/12 the pumper at the PLU discovered that a ¼ inch gauge had broken causing crude oil and produced water to leak onto the area around the wellhead then traveled approximately 100 ft. to the edge of the well pad, it was estimated that 5 bbls of crude oil and 5 bbls of produced water were released, all of the fluid soaked into the ground. The release estimate was based on the square footage of the observed stain and calculated at a 2 ft. saturation depth. A C-141 spill report was submitted to the NMOCD on 4/10/12 and issued the spill report #2RP-1101.

Republic Backhoe was contacted on 4/9/12 and initiated a New Mexico One-call for the excavation activities planned.

The initial Form C-141 is included with this report.

#### SITE RANKING:

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer indicated information was unavailable for Section 32, Twns, 23 South, Range 30 East. A depth to ground water reference map utilized by the NMOCD indicates that groundwater should be encountered at approximately two hundred and twenty five feet (225') to two hundred and fifty feet (250') below ground surface. Based on this information the site would be assigned zero (0) points on the depth to ground water remediation requirement.

The search of the NMWRRS also indicated that there were no water wells within 1,000 feet of the release area. Based on this information the site would be assigned zero (0) points on the protection of water wells

Based on the information on the USGS map included in the report there are no surface water bodies within 1000 feet of the release. Based on this information the site would be assigned zero (0) points on the protection of surface water bodies.

NMOCD guidelines indicate that the Poker Lake Unit #186 release site has and initial ranking score of zero (0) points. The soil remediation levels for zero (0) points are as follows:

- Benzene-10 mg/kg
- BTEX---50 mg/kg
- TPH----5,000 mg/kg
- Chloride---250 mg/kg delineation point and estimated 1000 mg/kg remediation requirement.

The surface is regulated by State of New Mexico. The estimated remediation levels will satisfy the surface management requirement without having to be re-vegetated at this time due to fact that the location of the spill is entirely on the existing well pad. However the pad will be back filled and contoured to prevent future erosion issues.

#### SUMMARY OF SOIL REMEDAITION ACTIVITIES

On 4/11/12 Republic backhoe began the excavation and delineation activities. Soil was excavated and stockpile on site. On 4/13/12 a test hole was excavated to 4 foot just outside the concrete cellar that surrounds the wellhead. Field tests indicated the TPH and Chloride concentrations were below the remedial action levels. The sample was preserved pending delivery to the lab for confirmation analysis. Republic continued to excavating the contaminated soil and running field tests as they progressed from the wellhead area to the west edge of the well pad. The excavation depth ranged from two feet (2') to five feet (5'). On 4/18/12 confirmation soil samples were collected from the sidewalls and floor of the excavation in three areas identified as sample points A, B, and C, reference the Site Map with Sample Locations and Lab Analysis.

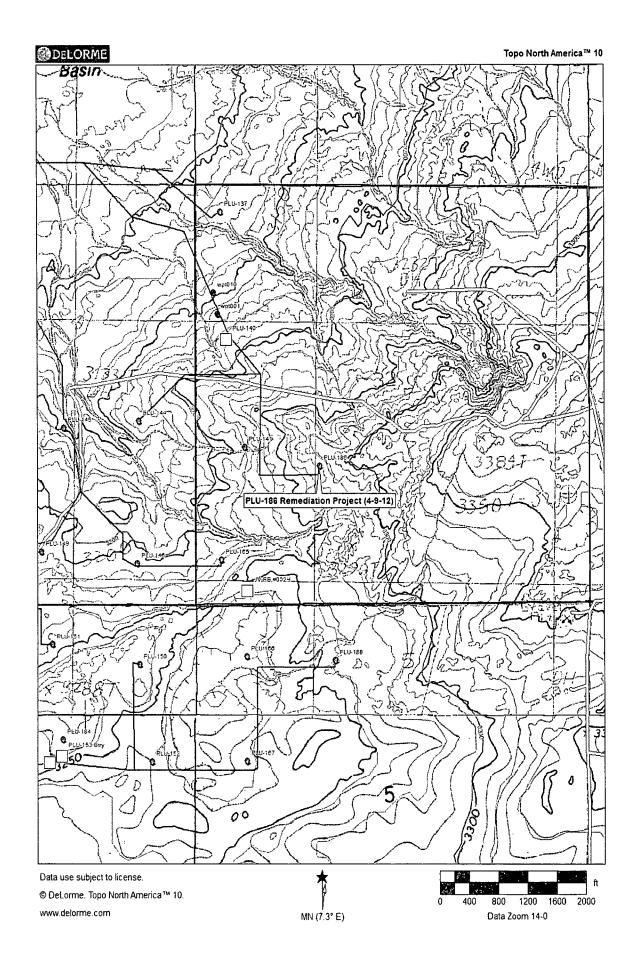
The lab results indicated that the excavated area met the remediation requirements developed through the Site Ranking process.

During a period from 4/11/12 through 4/18/12 approximately 504 cubic yards of soil was hauled to Lea Lands, manifest from Lea Lands during that time period indicated that 604.64 tons were received for disposal under permit #WM-10-035.

Backfill operations began on 4/19/12; Republic Backhoe Services started hauling surplus caliche from the PLU-300H, this caliche had been sampled by Basin Environmental and cleared for backfilling at a remediation project at the PLU-227. The backfilling, compaction and contour activities were completed on 4/23/12.

# SITE CLOSURE REQUEST

Remediation activities conducted at the PLU-186 pumping well location have met the objectives defined in the NMOCD guidelines for the remediation of leaks and spills. BOPCO, L.P. herby request the NMOCD to grant closure for the release at the spill site.



Diggict 1 1623 N. Franch Dr., H.&Do, NM 88240 Diggict H 1361 W. Grand Avenue, Artesia, NM 88210 Filterier H

State of New Mexico Energy Minerals and Natural Resources

State of New Mexico

Ey Minerals and Natural Resources

Oil Conservation Division

Refreson (1906a: 10, 2003)

PECEIVE Data 1 Copies to appropriate

Disci <u>et IV</u>	ia Read, Assrc, I. ve 874 i			onservation Di South St. Franc		11 <u>1</u>		iel Office in accordance with Rule 116 on back		
1220 S. SL Fra	neis Dr., Sans Fe. NM 87	SDS		ıta Fe, NM 87.		AJ*K	11 2312	side of tourn		
Name of C	7/15 <sup>-</sup> 335 <sup>-</sup> 5 <sup>-5</sup> nmpsny BOPCO, L	P	ease Notifica	OPERA 7 Contact To	TOR ny Savnie		D ARTESIA	nt 🔲 Final Repor		
	2 W. Mermod, Suite		ad, N.M. 88220	Télephone	No. 432-336-8	730				
Facility Na	me Poker Lako Unit	#186	•	Facility Ty	pe C&P					
Surlice Ov	viter State Of N.M.		Mineral O	oner State of N.A	1		Lease No. 891			
				TION OF RE	LEASE	<u>.</u>	<u> 30-015-</u>	3/973		
Unit Letter K	Section - Township 32 ; 23S	p Range 30E	Feel from the _750	North/Smith Line South	Peer from the 1650	Esst <sup>v</sup> West	West Line County Fairly	<b>;</b>		
		j	Lutilade_N 32.25	BB00Longit	ude W 103.90	6800	<b>-·</b> ·	••		
			NATU	FRE OF REL	EASE					
Type of Rele	ense: Produced water a	nd crude oil			Fitchasia 5 libb water and 5 bbls		Volume Recovery	तै; 0		
Source of Re	lesse; a valve on the w	elihemi	<del>-</del>		Date and Hour of Occurrence Date and Hour of Discovery					
Was Immedi	inte Notice Given?	 ] ≉uY []	No Not Req	IFYES, F	ne unknown n Whism!		4/9/12 10:00 a.m.			
By Whom?			· · · ·	Livate and I	Kow					
Was a Waler	repuise Resched?	☐ Yes 🗵	] No	If YES, V	olume Enqueeting	g the Was	chodunia			
If a Wateron	urse was linguisted. De	write Fully.	•							
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regalations a public health should their c or the enviro	Ity that the information If operators are required not the environment. To operations have failed a nation. In addition, NA operations and/or a	d in report ni he assegnant o odequately VOCD accep	id/or file certain ret se of a C-141 report firessigate and ex-	east notifications a by the NMOCD is notiate entaminal	and perform commercial as "Pinal ion that pose a 1 to operator a control of the c	eurive zeti Report d hrest da gr f responsi	ions for releases wholes not reliave the definite water, and face ibility for compliant	ich may each ager operator of liability water, human heafth te with any other		
Signauce: Printed Name	Toy 2	ويسيد _		. Approved by	OH. CO		ATION DIVIS	— EION		
Title: Wasta I	Mgmt.& Rentalization	Specialist		Approval Da	APR 242	012	Sepiration Date:			
E-mail Addres	es: TASuveie#BussP	ec.eo.ii		Conditions of	Appeaval:		. ; \$11	azd □		
Date: 4/10/12 Attach Addi	lional Sheets If Nece	ssary	Phone: 432-556-87	Guidelines	iation per OC SUBMIT RE	AIGNIN I	ION	······································		

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV

# State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

# NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-141 Revised August 8, 2011

APR 0 7 2015

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

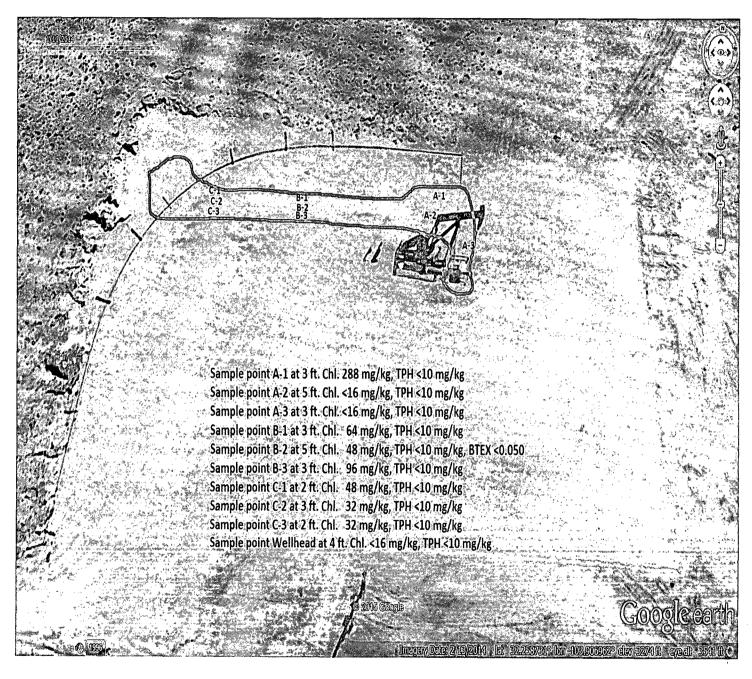
RECEIVED

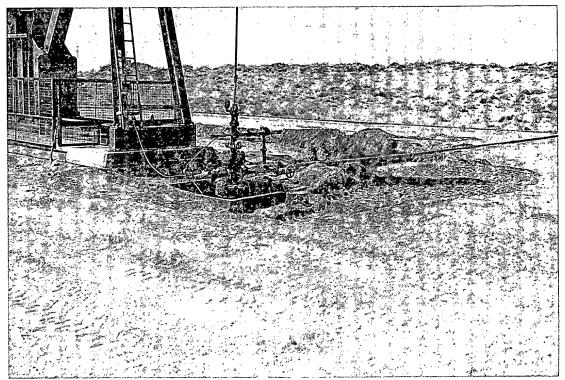
1220 S. St. Fran	cis Dr., Santa	Fe, NM 87505	5	Sa	anta F	Fe, NM 875	05		KLCLIV	LD			
			Rele	ease Notific	catio	n and Co	rrective A	ction		· .,,- <u>-</u>			
						OPERAT	OR		Initial	Report	$\boxtimes$	Final Repor	
Name of Co	mpany: B	OPCO, L.P.		*		Contact: To	ny Savoie					•	
			04 Carlsl	oad, N.M. 88220	0	Telephone 1	No. 575-887-732	29					
Facility Nar	ne: Poker	Lake Unit#	186			Facility Type: Exploration and Production							
Surface Ow	ner: State	of New Mex	ico	Mineral (	Owner	er: State of New Mexico API No. 30-015-31973							
				LOCA	ATIC	N OF RE	LEASE						
Unit Letter	Section	Township	Range	Feet from the		h/South Line	Feet from the	East/W	est Line	County			
K	32	238	30E	1750		uth	1650	Wes		Eddy			
				Latituda N 22	25000	00 Langitud	. W 102 00690	 no					
				Latitude N 32.		_		<u>u</u>					
- an .				NAT	URI	E OF REL							
Type of Rele	ase: Crude	oil and produc	ced water			Volume of oil and 5 b	Release: 5 bbls c	rude	Volume R	ecovered:	None		
Source of Re	lease: Valve	e on wellhead	, Correct	ed (pressure gaug	e)		lour of Occurrence	e:	Date and 10:00 a.m		scover	y: 4/9/12 at	
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required ☐ If YES, To Whom?													
By Whom?						Date and I-	lour				_		
Was a Watercourse Reached?						If YES, Vo	olume Impacting t	the Wate	rcourse.				
		,	Yes ∑	] No									
If a Watercou	ırse was Im	pacted, Descr	ibe Fully.	*									
Dagariba Cay	as of Duobl	em and Reme	dial Astio	n Talean *									
				n Taken.* e, and later determ	nined th	nat a pressure g	auge on the wellh	nead had	failed and	had been r	eplaced	đ.	
		, , , , , , , , , , , , , , , , , , , ,		,		p. rees g							
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Describe Are	a Affected	and Cleanup A	Action Tal	ken.*			<del>.</del>						
				of well pad, all o									
	_			ctivities. The exca ed during the rem			ed for compliance	e on 4/13	3/12 and 4/	18/12. Ap	proxim	iately 504	
				uest dated April .		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
		0									10.05		
				e is true and comp nd/or file certain i									
public health	or the envi	ronment. The	acceptan	ce of a C-141 rep	ort by t	he NMOCD m	arked as "Final R	eport" de	oes not reli	eve the op	erator (	of liability	
should their of	perations h	ave failed to	adequately	investigate and i	remedia	ate contaminati	on that pose a thr	eat to gr	ound water	, surface v	vater, h	uman health	
				otance of a C-141	report	does not reliev	e the operator of	responsi	bility for co	ompliance	with ar	ny other	
federal, state,	or local lav	vs and/or regi	ilations.				OIL CON	CEDV	ATION	DIVICI	ON		
_		9					OIL CON	SERV	ATION	DI V 131	ON		
Signature:	1 a	of Da	ue										
Printed Name	e: Tony Sav	oie				Approved by	Environmental S	pecialist	:				
Title: Waste	Managemer	nt and Remed	iation Spe	cialist		Approval Da	te:	F	Expiration I	Date:			
E-mail Addre	ess: tasavoie	@basspet.co	m			Conditions o	f Approval:			Attache	d 🖂		

Phone: 432-556-8730

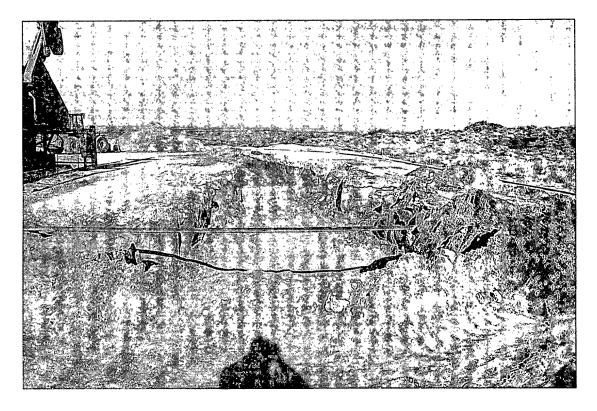
<sup>\*</sup> Attach Additional Sheets If Necessary

# SITE MAP WITH SAMPLE LOCATIONS & LAB ANALYSIS



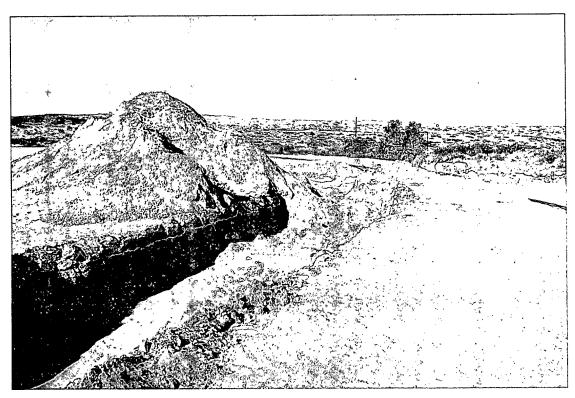


Wellhead sampling event 4/13/12

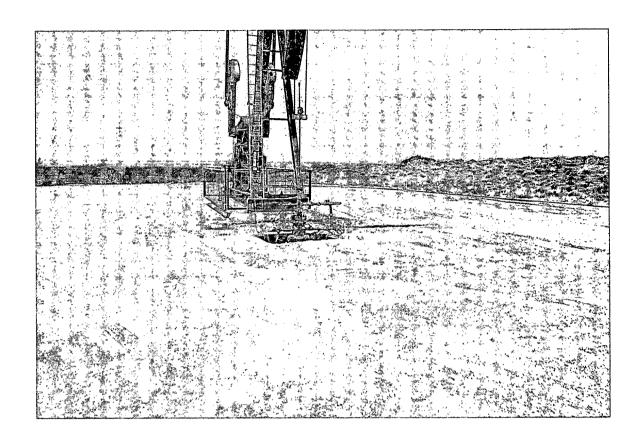


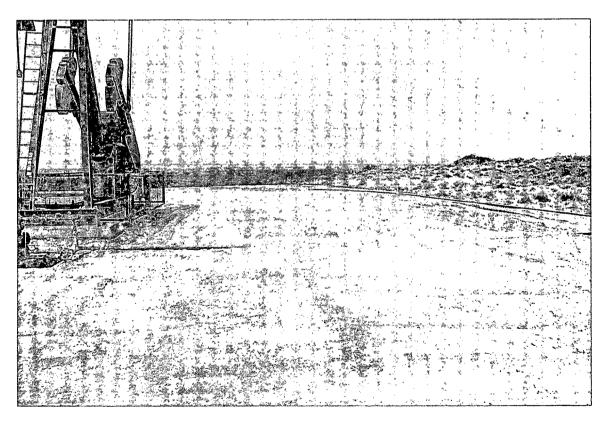
Final sampling event 4/18/12





Final Sampling event 4/18/12





Final Photographs 4/26/12



April 27, 2012

ERIC GARCIA

REPUBLIC BACKHOE SERVICES

47 E. DICKENS RD

LOVINGTON, NM 88260

RE: POKER LAKE 186

Enclosed are the results of analyses for samples received by the laboratory on 04/19/12 9:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.qov/field/qa/lab\_accred\_certif.html">www.tceq.texas.qov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey & Keene

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



REPUBLIC BACKHOE SERVICES ERIC GARCIA 47 E. DICKENS RD LOVINGTON NM, 88260 Fax To: NONE

Received:

04/19/2012

Sampling Date:

04/18/2012

Reported:

04/27/2012

Sampling Type:

Soil

Project Name:

POKER LAKE 186

Sampling Condition:

Cool & Intact

Project Number:

NONE GIVEN

Sample Received By:

Jodi Henson

Project Location:

NOT GIVEN

#### Sample ID: A-1 3 FT DEEP (H200900-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	

Surrogate: 1-Chlorooctane

98.3 %

55.5-154

Surrogate: 1-Chlorooctadecane

97.3 %

57.6-158

#### Sample ID: A-2 5 FT DEEP (H200900-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: I-Chlorooctane	97.6	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	95.7	% 57.6-15	8						

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed warved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This

Celey & Keene



REPUBLIC BACKHOE SERVICES **ERIC GARCIA** 47 E. DICKENS RD LOVINGTON NM, 88260 NONE

Fax To:

Received:

04/19/2012

Reported:

04/27/2012

Project Name: Project Number:

**POKER LAKE 186** NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

04/18/2012

Sampling Type:

Soil Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

#### Sample ID: A-3 3 FT DEEP (H200900-03)

Chloride,	SM4500Cl-B

Analyzed Rv: AP

Cilionac, Sin4300ci B	9	,g		27.7					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	

Surrogate: 1-Chlorooctane

94.9 %

55.5-154

Surrogate: 1-Chlorooctadecane

96.0 %

96.6 %

57.6-158

57.6-158

#### Sample ID: B-1 3 FT DEEP (H200900-04)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	97.6	% 55.5-15	1						
Surrogate. 1-Chioroociane	97.0	70 33.3-13	7						

Cardinal Laboratories

Surrogate: 1-Chlorooctadecane

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey & Keena



REPUBLIC BACKHOE SERVICES ERIC GARCIA 47 E. DICKENS RD LOVINGTON NM, 88260

Fax To: NONE

Received:

Total Xylenes\*

04/19/2012

Reported:

04/27/2012

Project Name: Project Number:

POKER LAKE 186 NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

6.88

115

04/18/2012

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

6.00

0.304

Sample ID: B-2 5 FT DEEP (H200900-05)

BTEX 8021B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/26/2012	ND	2.13	107	2.00	1.14	
Toluene*	<0.050	0.050	04/26/2012	ND	2.22	111	2.00	0.710	
Ethylbenzene*	<0.050	0.050	04/26/2012	ND	2.23	112	2.00	0.0436	

ND

04/26/2012

Surrogate: 4-Bromofluorobenzene (PIL 104 % 64.4-134

< 0.150

0.150

Chloride, SM4500Cl-B	mg/kg			Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg			Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	

Surrogate: 1-Chlorooctane 99.5 % 55.5-154
Surrogate: 1-Chlorooctadecane 101 % 57.6-158

Cardinal Laboratories \*=Accredited Analyte

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Celey & Keine



REPUBLIC BACKHOE SERVICES ERIC GARCIA 47 E. DICKENS RD LOVINGTON NM, 88260

Fax To:

NONE

Received:

04/19/2012

Reported: Project Name: 04/27/2012 **POKER LAKE 186** 

Project Number: Project Location: NONE GIVEN NOT GIVEN

Sampling Date:

04/18/2012

Sampling Type:

Soil Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

# Sample ID: B-3 3 FT DEEP (H200900-06)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP		·			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS				···		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	95.1	% 55.5-15-	4						***
Surrogate: 1-Chlorooctadecane	93.7	% 57.6-158	8						

#### Sample ID: C-1 2 FT DEEP (H200900-07)

Chloride, SM4500Cl-8	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	100	% 55.5-15	4						
Surrogate: I-Chlorooctadecane	102	% 57.6-15	8						

#### Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene



REPUBLIC BACKHOE SERVICES ERIC GARCIA 47 E. DICKENS RD LOVINGTON NM, 88260 Fax To: NONE

Received:

04/19/2012

Reported:

04/27/2012

Project Name: Project Number: POKER LAKE 186 NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

04/18/2012

Sampling Type:

Soil

Sampling Condition: Sample Received By: Cool & Intact

Jodi Henson

#### Sample ID: C-2 3 FT DEEP (H200900-08)

Chloride, SM450	OCI-B	_	mg/	kg

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	LSM mg/kg		Analyzed By: MS		-				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	

Analyzed By: AP

Surrogate: 1-Chlorooctane

98.1 %

55.5-154

Surrogate: 1-Chlorooctadecane

97.9 %

57.6-158

#### Sample ID: C-3 2 FT DEEP (H200900-09)

Chloride, SM4500Cl-B	mg	mg/kg		d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg	mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
					165	82.5	200	0.115	

Surrogate: 1-Chlorooctane 99.4 % 55.5-154
Surrogate: 1-Chlorooctadecane 102 % 57.6-158

Cardinal Laboratories

\*=Accredited Analyte

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Celey & Keene



REPUBLIC BACKHOE SERVICES ERIC GARCIA 47 E. DICKENS RD LOVINGTON NM, 88260 NONE

Fax To:

Received:

04/19/2012

Reported: Project Name: 04/27/2012 **POKER LAKE 186** 

Project Number: Project Location: NONE GIVEN

NOT GIVEN

Sampling Date:

04/18/2012

Sampling Type:

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

#### Sample ID: WELLHEAD (H200900-10)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS ·	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/26/2012	ND	2.13	107	2.00	1.14	
Toluene*	<0.050	0.050	04/26/2012	ND	2.22	111	2.00	0.710	
Ethylbenzene*	<0.050	0.050	04/26/2012	ND	2.23	112	2.00	0.0436	
Total Xylenes*	<0.150	0.150	04/26/2012	ND	6.88	115	6.00	0.304	
Surrogate: 4-Bromofluorobenzene (PIL	102 %	6 64.4-13	4		-				
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/20/2012	ND	184	91.8	200	0.670	
DRO >C10-C28	<10.0	10.0	04/20/2012	ND	196	98.1	200	1.38	
Surrogate: 1-Chlorooctane	99.7	% 55.5-15	4						
Surrogate: I-Chlorooctadecane	99.1 9	% 57.6-15	8						

\*=Accredited Analyte Cardinal Laboratories

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Clay D. Keine



#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories \*=Accredited Analyte

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Celey & Keine



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

	(575) 393-2326 FAX (575) 393-247	6					
Company Name	Repulic Backhoe Sevie	ح الن	BILL TO ANALYSIS REQUEST				
Project Manage	": ERIC GAMZA		P.O. #:				
	¿ Oickers		Company:	1   13			
City: Outur	State: UM	Zip: 88260	Attn:				
Phone #: 57	5-131-0131 Fax #:575.	316-1787	Address: Colo P				
Project #:	Project Owne	r: Babie 1p	city Cos 15 bad				
Project Name:			State: Zip:				
Project Location	n: Polez lake 186		Phone #:	Addiel 4124/12			
	EPIL GAZIZE		Fax #:				
FOR LAB USE ONLY		MATRIX	PRESERV SAMPLING				
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL	ACIDIBASE:	BIEX			
	A-1 31-100	V	4 4-18				
2	A-2 5Hdp	V					
3	A-3 3Hdp						
4	5-1 3Hdp						
<u> </u>	D-2 stide						
6	13-3 39(dp		<u> </u>	<u> </u>			
	c-1 241de						
8	(-2 7 Eldy						
9	- C-3 2 - 2 + 1 dy	_   _   _   _   _   _   _   _					
PLEASE NOTE: Liability to	WELL IT-2d so Damages, Cardinar's liability and client's exclusive remedy for a	any claim arising whether based in contri	ad or lost, shall be knoted to the knownt paid by the client for	toe			
	ng those for negligence and any other cause whatsoever shall be						

service. In no event shall Cordinal be liable for moidental or consequental damages, including without limitation, business interruptions, loss of use, or isse of profes incurred by others, as subsidiaries,

	e of services hereunder by Cardinal, requiriless of whether such claim is based upon any of the above stated r	easons of Otherwise.
Relinguished By:	Qatel	Phone Result:
1	4/7/2/1-0 /0/	Fax Result:  Yes  No Add'l Fax #:
111	Tipog: 1: - 1/0/11 1/0 M A DOLL	REMARKS:
llindy bares	19.45 W/Lell.	Email: Exigenciable & hotardil. com
Relinquished By:	Date: Received By:	12Md. 1. The Chercialis of Lourisian
1 ' )'	0	
•	Time:	Air Paril Tree Same
	1	1 Also cma 1 1004 socie
Delivered By: (Circle One)	Sample Condition   CHECKED BY:	I does added as de Tom 4/24/12. Ch
Sampler - UPS - Bus - Other:	Cool Intact (finitals)	Also Email Tory Sovoic Hruler. Ch.
		4

<sup>†</sup> Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



April 23, 2012

ERIC GARCIA
REPUBLIC BACKHOE SERVICES
47 E. DICKENS RD
LOVINGTON, NM 88260

RE: POKER LAKE 186

Enclosed are the results of analyses for samples received by the laboratory on 04/19/12 9:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/ga/lab">www.tceq.texas.gov/field/ga/lab</a> accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2 Haloacetic Acids (HAA-5)
Method EPA 524.2 Total Trihalomethanes (TTHM)
Method EPA 524.4 Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keene

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



REPUBLIC BACKHOE SERVICES ERIC GARCIA 47 E. DICKENS RD LOVINGTON NM, 88260 NONE

Fax To:

Received:

04/19/2012

Reported:

04/23/2012

Project Name: Project Number:

**POKER LAKE 186** NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

04/18/2012

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

# Sample ID: A-1 3 FT DEEP (H200900-01)

Chloride, SM4500Cl-B	mg/kg		Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	98.3	% 55.5-15	4						· · · · · · · · · · · · · · · · · · ·

Surrogate: I-Chlorooctane Surrogate: 1-Chlorooctadecane 97.3 % 57.6-158

#### Sample ID: A-2 5 FT DEEP (H200900-02)

Chloride, SM4500CI-B	mg/kg		Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND .	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	97.6	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	95.7	% 57.6-15	8						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Keene



REPUBLIC BACKHOE SERVICES ERIC GARCIA 47 E. DICKENS RD LOVINGTON NM, 88260

Fax To: NONE

Received:

04/19/2012

Sampling Date:

04/18/2012

Reported:

04/23/2012 DOVED LAKE 1

Sampling Type:

Soil

Project Name: Project Number: POKER LAKE 186 NONE GIVEN Sampling Condition: Sample Received By: Cool & Intact Jodi Henson

Project Location:

NOT GIVEN

Sample ID: A-3 3 FT DEEP (H200900-03)

Chloride, SM4500Cl-B

ma/ka

Analyzed By: AP

Chloride, SM45UUCI-B	mg,	/ Kg	Anaiyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	

Surrogate: 1-Chlorooctane

94.9 %

55.5-154

Surrogate: 1-Chlorooctadecane

96.0 %

57.6-158

#### Sample ID: B-1 3 FT DEEP (H200900-04)

Chloride, SM4500Cl-B	mg/kg		Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	97.6	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	96.6	% 57.6-15	8						

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Kuna



REPUBLIC BACKHOE SERVICES ERIC GARCIA 47 E. DICKENS RD LOVINGTON NM, 88260 NONE

Fax To:

Received:

04/19/2012

Reported:

04/23/2012 **POKER LAKE 186** 

Project Name: Project Number:

NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

04/18/2012

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

#### Sample ID: B-2 5 FT DEEP (H200900-05)

Chloride, SM4500Cl-B	mg.	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	99.5	% 55.5-15	·+						
Surrogate: 1-Chlorooctadecane	101	% 57.6-15	.8						

#### Sample ID: B-3 3 FT DEEP (H200900-06)

Chloride, SM4500Cl-B	mg/kg		Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	95.1	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	93.7	% 57.6-15	8						

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\*=Accredited Analyte

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Celeg & Keine



REPUBLIC BACKHOE SERVICES ERIC GARCIA 47 E. DICKENS RD LOVINGTON NM, 88260 NONE

Fax To:

Received:

04/19/2012

Sampling Date:

04/18/2012

Reported:

DRO >C10-C28

Surrogate: 1-Chlorooctadecane

04/23/2012

Sampling Type:

165

82.5

Soil

200

0.115

Project Name:

**POKER LAKE 186** NONE GIVEN

mg/kg

<10.0

10.0

Sampling Condition:

Cool & Intact

Project Number: Project Location:

NOT GIVEN

Sample Received By:

Jodi Henson

#### Sample ID: C-1 2 FT DEEP (H200900-07)

Chloride,	SM4500CI-B

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	

ND

04/19/2012

Analyzed By: AP

55.5-154 Surrogate: 1-Chlorooctane 100 % 57.6-158 102 %

# Sample ID: C-2 3 FT DEEP (H200900-08)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP			· · · · · · · · · · · · · · · · · · ·			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	98.1	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	97.9	% 57.6-15	8						

\*=Accredited Analyte Cardinal Laboratories

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Celey D. Keene



REPUBLIC BACKHOE SERVICES **ERIC GARCIA** 47 E. DICKENS RD LOVINGTON NM, 88260 NONE

Fax To:

Received:

04/19/2012

Reported:

04/23/2012

Project Name: Project Number: **POKER LAKE 186** NONE GIVEN

Project Location:

NOT GIVEN

Sampling Date:

04/18/2012

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

#### Sample ID: C-3 2 FT DEEP (H200900-09)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/19/2012	ND	160	79.9	200	2.07	
DRO >C10-C28	<10.0	10.0	04/19/2012	ND	165	82.5	200	0.115	
Surrogate: 1-Chlorooctane	99.4	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	102	% 57.6-15	8						

#### Sample ID: WELLHEAD (H200900-10)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	04/20/2012	ND	400	100	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	04/20/2012	ND	184	91.8	200	0.670	
DRO >C10-C28	<10.0	10.0	04/20/2012	ND	196	98.1	200	1.38	
Surrogate: 1-Chlorooctane	99.7	% 55.5-15	4						
Surrogate: 1-Chlorooctadecane	99.1	% 57.6-15	8						

#### Cardinal Laboratories \*=Accredited Analyte

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Celey D. Kune



#### **Notes and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

\*\* Samples not received at proper temperature of 6°C or below.

\*\*\* Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories \*=Accredited Analyte

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Celey D. Kure



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name: Condic Backhoe Sprice ICC	BILL TO ANALYSIS REQUEST
Project Manager: Exic Clarker	P.O. #:
Address: 47 & O. Charles	Company:
City: Council State: UV Zip: \$5260  Phone #: 575-631-0131  Fax #: 575-396-2787	Attn: Calland Calland
Phone #: 575 - 631 - 631 Fax #: 575 - 316 - 1787	Address: World
Project #: Project Owner: Bobic 19	cityCa/Sback
Project Name:	State: Zip:
Project Location: Poker lake 186	Phone #:
Sampler Name: Epic Chancer	Fax #:
FOR LAB USE ONLY  MATRIX  D.	PRESERV. SAMPLING
(C)OMP. ERS ATER TER	
(G)RAB-OR (C)C  ROCHINGERS  GROUNDWATER SOIL SOIL SILIDGE SILIDGE	
CONTAIN Sample I'D.  RECONTAIN RECONTAIN SOIL  SOIL  SUIDGE STANDARD OF THE ST	B S S S S S S S S S S S S S S S S S S S
CG) RABLOR (C) ACCUMPATER GROUNDWATER SOIL OIL.	Studge OTHER: ACID/BASE: OTHER: OTHER
1 A-1 34-de	4 4-18
3 A-3 3Hdp	
9 6 344	
5 613 SHA	
-6 B-3 31(2)	
8 (-2 3+1dg	
C( C+3 2+14)	
10 wenterd	3) n/13
PLEASE NOTE: Liability/and-Camages, Cordinal's liability and clients exclusive remedy rist any dia mainsing whether based in contra- analyses. All craims including those for negligence, and any other cause whatsoever shall be greened wayed unloss made in writing a	traction forms for the browning and by the growth forms gland received by Cardina Within 90 days after completion of the accidance gland received by Cardina Within 90 days after completion of the accidance forms of the contract of browning and the windows of accidance forms of the contract of browning and the windows of accidance forms of the contract of browning and the windows of accidance forms of the contract of browning and the windows of accidance forms of the contract of browning and the contract of the contract o
solvide, In no event shall Cardinal be liable for incidental of consequental damages, including with CLEAR tasking Custiness Intervations attitudes or suppossing raising out or or dialed to the performance of pervices become to Cardinal regardless of whether suduction.  [Postinguished By:   Postinguished	a mila based upon antrof inerabova stared reasons or ginerwise
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Relinguished By:	KENNAKKS:
Relinguished By: Date: Beceived By:	Zyla. C. Cha Cycania & C C C
Time:	EMA. 1: Enregenciale a holmail con Also Email Tory Sovore
Délivered By: (Circle One) Sample Condi	
Sampler - UPS - Bus - Other:	t (hitals). Yes : 1
LINOLIN	NO G